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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/245,499	02/05/99	KHANDROS	I 3401.P1D1C1
		MM01/1006	EXAMINER
			CUNEO, K
			ART UNIT
			PAPER NUMBER
			2841
		DATE MAILED:	10/06/00

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks



## UNITED STATES DEPARTMENT OF COMMERCE

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101/145,419

SERIAL NUMBER FILING DATE FIRST NAMED INVENTOR ATTORNEY DOCUMENT NO.

EXAMINER

ART UNIT PAPER NUMBER

19

## DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

This application has been examined  Responsive to communication filed on 9/19/00  This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

## Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1.  Notice of References Cited by Examiner, PTO-892.
2.  Notice of Draftsman's Patent Drawing Review, PTO-948.
3.  Notice of Art Cited by Applicant, PTO-1449.
4.  Notice of Informal Patent Application, PTO-152.
5.  Information on How to Effect Drawing Changes, PTO-1474.
6.

## Part II SUMMARY OF ACTION

Claims 113 - 123 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2.  Claims \_\_\_\_\_ have been cancelled.

3.  Claims \_\_\_\_\_ are allowed.

4.  Claims 113 - 114, 117 - 122 are rejected.

5.  Claims 115, 116, 123 are objected to.

6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.

7.  This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8.  Formal drawings are required in response to this Office action.

9.  The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are  acceptable;  not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10.  The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been  approved by the examiner;  disapproved by the examiner (see explanation).

11.  The proposed drawing correction, filed \_\_\_\_\_, has been  approved;  disapproved (see explanation).

12.  Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received  been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13.  Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14.  Other

## EXAMINER'S ACTION

Serial Number: 09/245499  
Art Unit: 2841

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to by the examiner for improper cross hatching. All the parts shown in section should be cross hatched according to MPEP 608.02, page 600-84.
- The drawings are also objected to because those figures showing that which is old are not labeled with a prior art legend. Such a label is required. See, for example, the brief description of figure 1.

Also, the embodiment of the invention claimed is not shown in the drawings and explained in the detailed description of the invention. An illustration and explanation are required. Please note that all of the features of the elected invention should be shown in a single embodiment.

Please note that drawing corrections cannot be postponed until notice of allowance is received, even though submission of formal drawings can be postponed. See MPEP 608.02(v). Corrections in response to this office action are required. No corrections have been received yet.

### *Specification*

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Treatment of Claims Based on Prior Art*

#### *35 U.S.C. § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

Serial Number: 09/2454  
Art Unit: 2841  
the rejected t

er this section made in this Office action:

ferred to a patent unless --

patented or described in a printed publication in this or a foreign country or in public use or on more than one year prior to the date of application for patent in the United States.

0-121 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by et al. (US 3389457, hereafter Goldman).

and 117-122 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by contact 32 of Ashby (US 3519890). See also 39-42 which disclose the die.

Claims 113-114 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by the figure and contact 6 of Walraven et al. (US 3188535). See also column 1 line 70, through column 2, line 5.

### *Allowable Subject Matter*

7 Claims 115-116 and 123 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not disclose the contacts with the claimed shape and claimed layer structure

being formed directly on a semiconductor die.

### *Related Prior Art*

8. The following references are considered pertinent to the present application.  
-- De Mille et al. and Looney disclose nickel or Kovar wire which is coated with a softer metal.

- Urban discloses a free standing contact directly on the die (instead of on the package). But, the contact does not have the soft precursor with the overcoat. This is true of Moroney as well.
- Miller discloses copper wire over coated with a hard metal such as nickel (last paragraph of column 1). Nevertheless, the contact being free standing with a tip pointing away from the die is not disclosed. And, since this contact is specifically for ultrasonic welding, one of ordinary skill would not apply this layer structure to a soldered contact.
- Column 14, lines 58-62, of Clayton disclose contact formation on bare dies.

*Response to Arguments*

9. Applicant's arguments have been carefully reviewed, but are moot in view of the new grounds of rejection.

*Closing*

10. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Examiner Kamand Cuneo at (703) 308-1233. Examiner Cuneo's supervisor is Mr. Jeffrey Gaffin whose telephone number is (703) 308-3301.



K. Cuneo  
Patent Examiner, Group 2841  
September 27, 2000